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COMPILATION OF STATE DATA FOR EIGHT SELECTED TOXIC SUBSTANCES

VOLUME III. ANNOTATED BIBLIOGRAPHY OF STATE DATA AND INFORMATION SOURCES

MITRE CORPORATION

PREPARED FOR
ENVIRONMENTAL PROTECTION AGENCY

SEPTEMBER 1975

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SEPTEMBER 1975

FINAL REPORT

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16. ABSTRACT

In June 1974, the Office of Toxic Substances, EPA, contracted with MITRE to collect and analyze toxic substances data in the U.S. In the next 14 months MITRE contacted agencies in 20 key states and collected and analyzed their monitoring data. This appendix is a cross-reference bibliography by state and by substance of every body of data and report collected from the state agencies in the course of the project.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
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COMPILATION OF STATE DATA FOR EIGHT SELECTED TOXIC SUBSTANCES

VOLUME III
ANNOTATED BIBLIOGRAPHY OF STATE DATA AND INFORMATION SOURCES

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INTRODUCTION

The MITRE Corporation performed a study for the Office of Toxic Substances, Environmental Protection Agency, entitled Collection of of Data and Data Analysis for Toxic Substances. The objectives of the study were to contact as many state agencies as resources allowed; acquire available toxic substances data; process and analyze the data; and report on the availability, nature and usefulness of the data, and the capabilities of the agencies for toxic substances monitoring.

In the course of this project MITRE acquired data from a wide variety of sources in a wide variety of forms and formats. Sources included state departments of agriculture, health, geology, forestry, natural resources, environmental protection, fish and wildlife, water supply, and sanitation. Forms of data and formats included raw data sheets, computer printouts, published articles, memos, annual reports, and other documentation. Because it was determined that a listing of the data obtained from the states would be of potential value to EPA and other users, the data which was received is referenced in this annotated bibliography, and is being published as a supporting volume to the final report. Volumes in the complete final report are the following:

- Volume I: Collection and Analysis of Toxic Substances Data from State Agencies - Final Report
- Volume II: Directory of State Toxic Substances Monitoring

Agencies

- Volume III: State Data and Information Sources Used in the Course of the Study - An Annotated Bibliography
- Volume IV: Compilation of the Summaries and Analyses of State Data
- Volume V: Monitoring Program Capability Descriptor Tables.

This bibliography references the data sources obtained from contacts in the 20 states on the eight[1] toxic substances of interest monitored in those states. Table 1 is a cross-reference index to the data references. The index can be approached in two distinct ways -- by state and by specific toxic substance -- in order to obtain the appropriate reference numbers which identify the references in the body of the bibliography. Additionally, at a number of the agencies visited, some data had been generated on toxic substances of interest which for various reasons could not be made available during the course of the project and was not available through a Federal source. Following the listing of data received, there is a listing by agency of that data which was identified but not obtained during the project.

The data and information which was collected from the 20 states has been turned over to the Office of Toxic Substances, Environmental Protection Agency. All requests for primary data and information should be made directly to the Office of Toxic Substances.

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1. Arsenic, beryllium, cadmium, chromium, cyanide, lead, mercury, and PCB's. References are also included for PBB's, as a large amount of data was received on them from Michigan; and for several miscellaneous reports.

TABLE I

CROSS-REFERENCE INDEX TO DATA SOURCES BY STATE AND TOXIC SUBSTANCE

Reproduced from best available copy.

STATE	As	Be	Cd	CN	Cr	Hg	Pb	PBB	PCB	MISCELLANEOUS
California	7		4, 6		4	37	4, 5, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 47, 66, 125		59	5, 91
Colorado	19, 21, 35		19, 21, 22, 35, 44, 45, 46	19, 15	19, 22, 44, 45, 46	22, 39	19, 20, 21, 22, 23, 35, 44, 45, 46			
Connecticut		26	26, 27, 32, 108, 112, 122, 128		26, 27, 108	27, 32, 122	26, 27, 32, 48, 49, 50, 51, 52, 53, 54, 65, 108, 109, 112, 122			25
Delaware	33	33	33		33, 34	33, 34	33, 34			
Florida			78, 79		78, 79		78, 79		40, 78	
Georgia	34, 42		38, 42		42	37, 38, 42, 43, 99	38, 41, 42		39	
Idaho			36, 110		36, 64	36, 38, 64	36, 110			
Iowa	60		60				60		59	
Massachusetts	61, 72		61, 72, 77, 93		61, 72, 77, 93	61, 62, 72, 73, 76, 93	61, 72, 93		24, 75, 76	
Michigan	58, 83	81	58, 81, 83, 84	83	58, 83, 84	38, 80, 82, 84	38, 81, 83, 86	83, 82, 86	38, 80, 85	
Missouri	90		88, 90, 105, 106		90, 105	87, 89, 90	88, 90, 105, 106		89	
New Jersey						94				
New York	96, 97, 101	96, 97	95, 96, 97	96, 97	95, 96, 97	1, 95, 96, 97	92, 95, 96, 97			
North Carolina	98		98		98		98			
Oregon						100				
Pennsylvania	102, 103	102	102, 104			103	85, 102, 103, 104			
Tennessee	114, 115	113	113, 115		113	115, 116	113, 115		114, 115	
Texas	69, 119, 120		69, 118, 119, 120	120	119, 120	117, 118, 119, 120	69, 70, 119, 119, 120		121	
Utah		127	127		127		127, 129		123	
Washington	28, 29, 30, 31, 87, 111, 124				107, 111, 126	2, 3, 30, 71, 107, 111	31, 63, 107, 111, 124, 126		107, 10	

1. Alexander, J. E., J. Foehrenbach, S. Fisher, and D. Sullivan, Mercury in Striped Bass and Bluefish, New York Fish and Game Journal, Vol. 20, No. 2, pp. 147-151, July 1973.

   Bluefish and striped bass were taken from Montauk Point on Long Island and analyzed for mercury content. A correlation between mercury content and weight was found. The larger the fish, the more mercury it contained.

2. Bothner, Michael Henry, Mercury: Some Aspects of Its Marine Geochemistry in Puget Sound, Washington. Ph.D. Dissertation, University of Washington, 1973.

   This study was the first of its kind to examine the biogeochemical behavior of mercury in the waters and sediments of Puget Sound. The findings are discussed in detail.

3. Bothner, Michael H., and Roy Carpenter, The Rate of Mercury Loss from Contaminated Estuarine Sediments in Bellingham Bay, Washington, Univeristy of Washington, 1973.

   The work discussed in this paper is concerned with tracing the level of mercury in soil sediment samples. Results showed that as mercury discharge decreased, mercury content in sediment also decreased.

4. Bruland, Kenneth W., et al., History of Metal Pollution in Southern California Coastal Zone, Environmental Science and Technology, Vol. 8, pp. 425-432, May 1974.

   This paper discusses metal content fluctuation in coastal California sediments.

5. Cahill, Thomas A., Cyclotron Analysis of Atmospheric Contaminants, University of California, Davis, Crocker Nuclear Laboratory, October 31, 1972.

   The following is the author's summary of this document:

   This report summarizes the results of a one-year effort to develop techniques to perform elemental analysis of atmospheric particulate samples using accelerator beams. The system is quantitative and absolute: every peak is compared directly to an elemental standard whose value is known to ± 7 percent. The system sensitivity for X-ray analysis ranges between about 10 and 100 ug/cm^2 for short runs, while values of about 10 ug/cm^2 are obtained for light elements in one hour via alpha scattering.

The system analyzes elements between sodium and uranium by X-rays, while elements between hydrogen and calcium (excluding Be) are analyzed in elastic alpha-scattering. The maximum through put per day is about 2400 X-ray analyses (fast); plus 24 X-ray analyses (slow); plus 96 alpha scattering analyses (light elements). Cost ranges between about $1.56/sample and about $10.00/sample for fast analysis, with the price of alpha scattering analysis set at about $20.00/sample when performed in tandem with fast analysis. The system is also applicable to other accelerators with heavy particle beams of 4 MEV/amu.

6. California Air Resources Board, Air Quality Data, 1971-1974.

   The data in this report comprises a compilation of California air data samples. Approximately 40 sites were monitored for lead and cadmium content in air. Results were recorded onto the standard SAROAD forms.

7. California Department of Food and Agriculture, Arsenic Analysis on Poultry, Chicken Fat, and Swine, Rabbit, and Beef Livers, 1973-1974.

   A large number of analyses were performed on various poultry and beef for arsenic contamination. Poultry was sampled most frequently, with 384 samples tested in 1973, and 516 samples tested in 1974. Results showed that the mean value for both years was 0.12 ppm.

8. Carnegie Institute of Technology, School of Urban and Public Affairs, Lead Poisoning in Allegheny County, Carnegie-Mellon University, April 1974.

   Graduate students from Carnegie-Mellon University monitored a program in conjunction with the Allegheny County Health Department on the effects of lead poisoning in children. This report discusses the results of the joint effort.

9. Chow, Tsaihwa J., Lead Accumulation in Roadside Soil and Grass, Nature, Vol. 225, No. 5229, pp. 295-296, January 17, 1970.

   Soil and grass samples taken along U.S. Highway 1 in Maryland were checked for lead content. Lead accumulation was highest on the top layer of soil and decreased at lower depths.

10. Chow, Tsaihwa J., et al., Lead Pollution: Records in Southern California Coastal Sediments, Science, Vol. 181, pp. 551-552, August 10, 1973.

    Lead levels have been found in Southern California coastal sediments. This lead comes mainly from the combustion of lead additives in gasoline.

11. Chow, Tasihwa J., Our Daily Lead, Chemistry in Britain, Vol. 9, No. 6, pp. 258-263, June 1973.

    Dr. Chow discusses the distribution of lead in our environment and discusses how the U.S. Government is combatting lead pollution.

12. Chow, Tsaihwa J., John L. Earl, and Carrie F. Bennett, Lead Aerosols in Marine Atmosphere, Environmental Science and Technology, Vol. 3, No. 8, pp. 737-740, August 1969.

    Different methods for the shipboard testing of marine air and its lead content are discussed. Analyses were performed on air samples collected over the north and central Pacific Ocean between California, Midway Island, and American Samoa. Results showed that marine air is the least polluted of northern temperate atmospheres.

13. Chow, T. J., and J. L. Earl, Lead and Uranium in Pennsylvanian Anthracite, Chemical Geology, 6(1970), pp. 43-49.

    Lead and uranium have been found in Pennsylvanian anthracites. It has been determined that the lead was embodied prior to coalification while uranium came after coalification.

14. Chow, Tsaihwa J., and John L. Earl, Lead Isotopes in North American Coals, Science, Vol. 176, pp. 510-511, May 5, 1972.

    The thesis of this article is that lead isotopes in North American coals are equally or more radiogenic than those in the present continental crust.

15. Chow, Tsaihwa J., John L. Earl, and Carrie B. Snyder, Lead Aerosol Baseline: Concentration at White Mountain and Laguna Mountain, California, Science, Vol. 178, pp. 401-402, October 27, 1972.

This article states that lead aerosol concentrations at White Mountain should be used as present baseline concentrations for atmospheric lead in the continental United States.

16. Chow, Tsaihwa J., and C. C. Patterson, Concentration Profiles of Barium and Lead in Atlantic Waters off Bermuda, Earth and Planetary Science Letters, Vol. 1, No. 6, pp. 397-400, November 1966.

The authors collaborated on a study to search for industrially produced lead and also to compare the lead and barium content in Atlantic water to that in Pacific water.

17. Chow, Tsaihwa J., C. C. Patterson, and D. Settle, Occurrence of Lead in Tuna, Nature, Vol. 251, No. 5471, pp. 159-161, September 13, 1974.

The validity of lead concentration measurement in water and fish (including shellfish) was found to be unreliable. The measurement techniques of atomic absorption and anodic stripping voltammetry have been in error by factors from 10 to 100. A reliable technique has now been determined, finding that lead in muscle is four times lower in value than lead in epidermis.

18. Chow, Tsaihwa J., Carrie B. Snyder, and John L. Earl, Isotope Ratios of Lead as Pollutant Source Indicators, paper read at Symposium on Isotope Ratios as Pollutant Source and Behavior Indicators, 18-22 November 1974 in Vienna, Austria.

The authors discuss characteristic isotope ratios of individual lead ore deposits and indicate how these unique isotope ratios can indicated the source of lead pollutants in the environment.

19. Colorado Department of Health, Division of Engineering and Sanitation, Colorado Drinking Water Supplies, February 1971.

This publication comprises a listing of water supplies in Colorado along with the results of chemical analyses performed on representative samples.

20. Colorado Department of Health, Milk, Food, and Drug Division, Lead in Pottery Data 1971-1974, 1974.

The Milk, Food, and Drug Division monitored the lead content contained in various forms of pottery. Approximately 800 samples were analyzed during a four-year period. An overwhelming majority (85 percent) had lead contents of zero.

21. Colorado Department of Health and Hospitals, City and County of Denver, Water Quality Data from the South Platte River, 1971-1973.

The data in this document comes from six sampling stations along the South Platte River. The samples from the river showed no metals contamination.

22. Colorado Department of Health Laboratory, Heavy Metals Run by the Colorado Department of Health Laboratory, July 1, 1971 to July 1, 1974.

This document summarizes the activities of the author's laboratory and enumerates how many samples of a particular media were analyzed for various heavy metals.

23. Colorado Department of Natural Resources, Division of Wildlife, Non-hunting Mortality Investigations of Canada Geese in Southeastern Colorado, October 1974.

This report discusses a program that identified non-hunting mortality factors of Canadian geese at Turks Pond. The program is discussed in detail along with the data analyses performed.

24. Commonwealth of Massachusetts, Division of Fisheries and Game, Massachusetts Pesticide Monitoring Program Progress Report, 1972.

This document discusses the research and demonstration projects which sought to investigate pesticide monitoring techniques. Twenty-five stations were sampled on major streams in Massachusetts. Fish and mussel specimens were analyzed and found to contain levels of PCB over those levels established by the Federal Government.

25. Connecticut Agricultural Experiment Station, Report on Food from Connecticut Markets and Farms, 76th, 77th, and 78th Reports, 1971-1973.

Since 1896, the Connecticut Agricultural Experiment Station has published annual reports showing the results of the sampling of food offered for sale in Connecticut. The analyses performed on the food samples showed whether or not pesticide residue existed, and if they did, the value of them.

26. Connecticut Department of Environmental Protection, Suspended Particulate Metals Analysis, 1969-1973, 1973.

This document contains air samples collected in the state of Connecticut over a four-year period. Although the Connecticut Department of Environmental Protection maintains the monitoring network, the chemical analysis of the samples is performed by the Health Department.

27. Connecticut Department of Health, Environmental Health Services, Heavy Metal Content in Shellfish, January 1970-June 1974, October 1974.

The Connecticut Department of Health carried out a program to sample shellfish from Connecticut's waters for heavy metal content. Summaries are included for the results of the program, along with a list of current FDA guidelines for acceptable heavy metal content in shellfish.

28. Crecelius, Eric A., Arsenic Geochemical Cycle in Lake Washington and its Relation to other Elements, University of Washington, no date.

High arsenic levels were found in Lake Washington. These arsenic levels were caused by a copper smelter located 35 km upwind from the lake.

29. Crecelius, Eric A., The Geochemistry of Arsenic and Antimony in Puget Sound and Lake Washington, Ph.D. Dissertation, University of Washington, 1974.

The author studied Puget Sound for trace metals content. Two of these metals, arsenic and antimony, were examined in detail, with the findings proving useful to the Environmental Protection Agency.

30. Crecelius, Eric A., Michael H. Bothner, and Roy Carpenter, Geochemistries of Arsenic, Antimony, Mercury, and Related Elements in Sediments of Puget Sound, Environmental Science and Technology, Vol. 9, Number 4, April 1975.

The Tacoma, Washington, copper smelter has contaminated Puget Sound with a variety of toxic substances. This paper discusses in detail the actual trace metals distribution.

31. Crecelius, Eric A., Carl J. Johnson, and George C. Hofer, Contamination of Soils near a Copper Smelter by Arsenic, Antimony, and Lead, University of Washington, no date.

This report discusses how stack dust from the Tacoma, Washington smelter has contaminated soil with trace metals. The dust is discussed as to its potential hazards.

32. Dehlinger, Peter, et al., Investigations on Concentrations, Distributions, and Fates of Heavy Metal Wastes in Parts of Long Island Sound, University of Connecticut, Marine Sciences Institute, October 1974.

This report discusses a two-year investigation of heavy metal wastes in Long Island Sound with emphasis on the Eastern Sound and the Connecticut coast. Five projects were undertaken to determine a preliminary budget of these wastes.

33. Delaware Division of Environmental Control, Technical Services Section, Air Monitoring Data 1975, 1975.

Air has been monitored in Delaware for the past year only. The data is coded in SAROAD format on keypunched cards.

34. Delaware Division of Environmental Control, Technical Services Section, Llangollen Landfill Project Data, 1972-1975, 1975.

Water samples were taken from the interceptor wells surrounding the Llangollen landfill area. Samples are analyzed on a monthly basis for trace metals content.

35. Denver Board of Water Commissioners, Water Quality Report, 1971, 1972, 1973.

These three annual reports summarize the work performed by the Quality Control Section of the Denver Board of Water Commissioners. Among the information included in these reports is the water quality summary for each of the three years.

36. Gebhards, Stacy, Frank Shields, and Susan O'Neal, Mercury Levels in Idaho Fishes and Aquatic Environments, 1970-1971, Idaho Fish and Game Department and Department of Health, November 1971.

During 1970-1971 the Idaho Fish and Game Department gathered various samples of aquatic organisms to determine the extent of mercury contamination in Idaho waters. Results showed mercury was present in both Idaho waters and fish, but only 5.3 percent of the total number of fish analyzed had mercury levels exceeding the FDA limit.

37. Georgia Bureau of Sport Fisheries and Wildlife, Mercury Content in Biota from Georgia Water Systems, 1971-1974.

Samples of many species of fish were taken from rivers in Georgia and were analyzed for mercury contamination. Analyses showed high mercury levels in a majority of the fish samples.

38. Georgia Bureau of Sport Fisheries and Wildlife, Toxic Substances Determination in Fish from the Savannah River and Altamaha River, 1971.

Four species of fish were taken from the Savannah and Altamaha rivers and analyzed for toxic substance content. Values for the substances of interest were found to be low.

39. Georgia Department of Agriculture, PCB Contamination Data, 1971-1974.

The Georgia Department of Agriculture assisted the U.S.D.A. and the F.D.A. examine poultry and feed for possible PCB contamination. The data showed consistently high PCB values in both media.

40. Florida Department of Agriculture and Consumer Services, Division of Chemistry, Pesticide Residues Laboratories, Quarterly Reports on Food Sampling for Pesticides, 1971-1974, 1971-1974.

These quarterly reports list the type of food, the number of samples of each food, the numer of violative samples, and a summary of the pesticides found with values given in ppm.

41. Georgia Department of Natural Resources, Environmental Protection Division, Georgia Air Sampling Network, 1970-1973.

Air data was submitted from 13 Georgia sites using the Hi-Vol method. The only toxic substance analyzed was lead. Results are provided in computer printout format.

42. Georgia Department of Natural Resources, Environmental Protection Division, Water Quality Monitoring Data for Georgia Streams, 1973, January 1974.

This three-volume report covers a comprehensive study of the monitoring program of streams in Georgia. Fifteen river basins were analyzed for Cr, As, Pb, Cd, and Hg on a monthly, quarterly, or semi-annual basis. All values for these trace metals were below detectable limits. Analyses were performed on both water and sediments.

43. Georgia Water Quality Control Board, Mercury Pollution Investigation in Georgia, 1971.

This report discusses the results of a survey of seven Georgia river basins and estuaries from Savannah Harbor to Cumberland Sound. The survey sampled industrial wastes, and fish and aquatic organisms for possible mercury contamination. Also under examination were the possible sources of the mercury.

44. Goettl, John P., James R. Sinley and Patrick H. Davies, Water Pollution Studies, Colorado Department of Natural Resources, Division of Wildlife, July 1972.

For these pollution studies, four study areas were defined and were sampled quarterly. Fish and insects were sampled in September of the year. Bioassays were also performed to determine the effects of lead on the growth and reproduction of fish.

45. Goettl, John P., James R. Sinley, and Patrick H. Divies, Water Pollution Studies, Colorado Department of Natural Resources, Division of Wildlife, July 1973.

For these water pollution studies, the same study areas used in the 1972 studies were used. Acute bioassays were performed with lead, and water quality analyses were performed and reported to the STORET system.

46. Goettl, John P., James R. Sinley and Patrick H. Davies, Water Pollution Studies, Colorado Department of Natural Resources, Division of Wildlife, July 1974.

This report discusses the monitoring program for the William Fork River, and the ongoing monitoring of the Creede study area. As in previous years, data from the water quality analyses were sent to the STORET system.

47. Goldsmith, John R., Food Chain and Health Implications of Airborne Lead, California State Department of Health, September 1974.

A lead poisoning incident affecting horses in the Carquinez Strait Area prompted the California Air Resources Board to check human food supplies in that area and elsewhere in California. Several hypotheses were tested with some tentative results that need further investigation.

48. Hankin, Lester, G. H. Heichel, and Richard A. Botsford, Lead Content of Printed Polyethylene Food Bags, Bulletin of Environmental Contamination and Toxicology, Vol. 12, No. 6, pp. 645-648, 1974.

Flexography is a variation of the letterpress process widely used in printing magazines. Printed polyethylene food bags were examined when it was shown that letterpress inks used in magazines contained approximately 29,000 ppm lead. Results showed that polyethylene bags enclosing different types of food contained from 425 to over 23,000 ppm lead.

49. Hankin, Lester, Gary H. Heichel, and Richard A. Botsford, Lead in Pet Foods and Processed Organ Meats: A Human Problem? Journal of the American Medical Association, Vol. 231, No. 5, pp. 484-485, February 3, 1975.

Lead found in canned pet foods has been a cause for concern since it has been claimed that some of these products have been consumed by human beings. This article examines the basis for this assumption and also analyzes actual lead content in some of the pet foods.

50. Hankin, Lester, Gary H. Heichel, and Richard A. Botsford, Lead on Wrappers of Specialty Foods as a Potential Hazard for Children, Clinical Pediatrics, Vol. 13, No. 12, pp. 1064-1065, December 1974.

The lead found on the colored portions of paper wrappings for candy and other luxury foods contained from 8 to 10,000 ppm. This high lead content may endanger children.

51. Hankin, Lester, Gary H. Heichel, and Richard A. Botsford, Lead Poisoning from Colored Printing Inks, Clinical Pediatrics, Vol. 12, No. 11, pp. 654-655, November 1973.

Lead has been found in the colored pages of magazines. This lead content has been of some concern because it may endanger children with pica.

52. Hankin, Lester, Gary H. Heichel, and Richard A. Botsford, Newspaper and Magazines as Potential Sources of Dietary Lead for Dogs, Journal of the American Veterinary Medical Association, Vol. 164, No. 5, p. 490, October 1974.

Lead content in printed paper has induced lead poisoning in dogs. These same lead levels have also been found to be toxic to human beings.

53. Heichel, Gary H., and Lester Hankin, Particles Containing Lead, Chlorine, and Bromine Detected on Trees with an Electron Micro Probe, Environmental Science and Technology, Vol. 6, pp. 1121-1122, December 1972.

Lead, chlorine, and bromine have been found on particles on or imbedded in the bark of trees. These lead-bearing particles are similar in elemental content to the compounds emitted in automobile exhaust.

54. Heichel, G. H., Lester Hankin, and Richard A. Botsford, Lead in Paper: A Potential Source of Food Contamination, Journal of Milk and Food Technology, V. 37, No. 10, pp. 499-503, October 1974.

Lead content in paper products has become an issue of concern since waste paper products are sometimes used in mulches. This article discusses the possible circulation of lead to food through paper and concludes that negligible amounts of lead are introduced into the earth from newspaper mulch.

55. Hesse, John L., Water Pollution Aspects of Polybrominated Biphenyl Production: Results of Initial Surveys in the Pine River Vicinity of St. Louis, Michigan, Michigan Bureau of Natural Resources, October 1974.

The Michigan Chemical Corporation of St. Louis, Michigan, is the only commercial source of PBB in the United States. An accidental contamination of animal feed and livestock prompted a study for testing water for high PBB levels. This report discusses the findings of the study.

56. Idaho Department of Environmental Protection and Health, Idaho City Dump Water Quality Reports, 1974.

These data sheets represent random sampling performed on water from the trench in the Idaho City Dump.

57. Interagency Committee on Environmental Mercury, Mercury in the California Environment, California Department of Public Health, 1971.

Mercury contamination was found in fish from both fresh and estuarine water bodies in California. While some sport fish were found to have elevated levels of mercury in their flesh, most commercial fish contained only minor mercury traces.

58. International Joint Commission, International Reference Group on Upper Lakes Pollution, Study of Pollution Problems of Lake Huron and Lake Superior, February 1974.

This document discusses a study of pollution problems of Lake Huron and Lake Superior. Reference questions were prepared by the International Joint Commission to be studied by the Upper Lakes Reference Group. The present report only discusses the reference questions and does not contain any data.

59. Iowa Department of Agriculture, Pesticide Residues in Fish, 1972-1975, 1975.

The Iowa State Chemical Laboratory analyzed samples of fish meal and fish for PCB content for the period 1972 through 1975. AROCLOR 1248 and 1254 were the main PCB's that were found.

60. Iowa Department of Environmental Quality, Raw and Treated Water Samples, 1971-1975, 1971-1975.

The Department of Environmental Quality examined raw and treated water samples for Pb, Cd, and As content. A majority of results were inconclusive.

61. Isaac, R. A., and Delaney, J., Toxic Element Survey Progress Report, Publication No. 6108, Massachusetts Division of Water Pollution, April 1972.

A joint effort by the Division of Water Pollution and the Department of Public Health of the state of Massachusetts was undertaken to evaluate trace metals contamination in various media. Data was collected from five media--water, shellfish, industrial waste, river and estuarine waters and sediments, and sewage treatment digestors. Analyses showed the values of the five metals under investigation consistently below acceptable Federal limits.

62. JBF Scientific Corporation, An Investigation of Mercury Problems in Massachusetts, D. S. Yeaple and G. Feick, July 1973. (Prepared for Division of Water Pollution Control, Massachusetts Water Resources Commission)

The JFB Scientific Corporation studied two areas in Massachusetts having mercury contamination. Each area has a chemical dye plant which uses mercury in its manufacturing processes. Findings showed that mercury content decreased when the use of mercury in manufacturing dyes was discontinued.

63. Jeffrey, R. G., and S. T. Zender, Ingested Lead Shot in Washington Waterfowl 1973-74 Hunting Season, Washington Department of Game, 1974.

Waterfowl gizzards were collected from three major hunting areas in Washington to determine the incidence of ingested lead shot. X-ray photographs showed that only four percent of the 692 gizzards contained lead shots.

64. Journal of the Idaho Academy of Science, Environmental Monitoring in Idaho for Metallic Poisons Using the Materials Testing Reactor, Special Research Issue No. 2, August 1971.

This special research issue is devoted to a symposium presented to the Joint Meeting of the Idaho Academy of Science, Northwest Scientific Association, and the Washington State Entomological Society at the University of Idaho. The symposium discussed the results of an environmental study of trace metals in Idaho wildlife.

65. Kambic, Robert, Lead in the Home Environment, Master's Thesis, University of Pittsburgh, no date.

This master's thesis discusses how the home environment, including the interior and exterior painted surfaces of the home, can contribute to lead poisoning in humans.

66. Koide, Minoru, Kenneth W. Bruland, and Edward D. Goldberg, Th-228/Th-232 and Pb-210 Geochronologies in Marine and Lake Sediments, Geochimica et Cosmochimica Acta, Vol. 37, pp. 1171-1187, 1973.

This article documents the Pb-210 dating of sedimentary deposits, along with the dating techniques for Ra-226, Th-228, Th-232, and Ra-228. The Pb-210 dating technique is valid for periods up to a century, while other ones are only valid for up to a decade.

67. Koirtyohann, S. R., Meers, R., and Graham, L. K., Mercury Levels in Fishes from some Missouri Lakes with and without Known Mercury Pollution, Environmental Research, 9:1 (August 1974), 1-11.

These authors found that mercurial fungicides used in golf course maintenance can lend to elevated levels of mercury in fish taken from lakes receiving golf course drainage. The species most susceptible to these elevated mercury levels was largemouth bass.

68. Kornfeld, Joseph M., William W. Ullmann, and Lester Hankin, Modifications and Use of the Dipstick Test, based on Urinary Delta-Aminolevulinic Acid Cala, for the Detection of Lead Poisoning in Children, Clinical Toxicology, Vol. 5 (1), pp. 7-16, 1972.

This report discusses the modifications made on the dipstick test used to find potential victims of lead poisoning. The use of the dipstick test in Connecticut is also discussed.

69. Landrigan, Philip J., et al., Epidemic Lead Absorption Near an Ore Smelter: The Role of Lead in Dust, Center for Disease Control, Atlanta, Georgia, 1972.

The ore smelter in El Paso, Texas, has been discharging large amounts of lead, zinc, cadmium, and arsenic into the atmosphere. The study reported in this paper discusses how lead content in household dust affects people living within close proximity of the smelter.

70. Landrigan, Philip J., Randolph H. Whitworth, Robert W. Baloh, Norman W. Staehling, William F. Barthel, and Bernard F. Rosenblum, Neurophychologic Dysfunction in Children with Chronic Low-Level Lead Absorption, Center for Disease Control, 1974.

This document, written jointly by researchers from Georgia, Texas, and California, discusses an experiment designed to find the effects of lead contamination in children. Results showed that while performance I.Q. was significantly lower in children with lead levels $\leq$ 40 mg /100 ml, verbal I.Q. and other neurological functions did not differ significantly.

71. Lauckhart, J. B., and J. B. King, Mercury in Washington Wildlife, Washington State Department of Game, 1969.

This report summarizes a survey undertaken by the Washington State Department of Game to determine mercury levels in wild birds. The survey showed that mercury levels were not as high as was anticipated.

72. Lawrence Experiment Station, Division of Environmental Health, Interstate Carrier Water Supply Analysis, 1974.

This document contains samples taken from water supplies in the state of Massachusetts in 1972 and 1974. Trace metals under investigation included As, Cd, Cr, Pb, and Hg.

73. Massachusetts Division of Fisheries and Game, Analysis of Fish Tissue for Mercury Content, 1971.

Fish samples were collected from nine Massachusetts river and analyzed for mercury content. Results showed that mercury levels in fish can be related to length and weight.

74. Massachusetts Division of Fisheries and Game, Analysis of Fish Tissue for Mercury Content, 1972.

This study was a follow-up effort to the 1971 Massachusetts Division of Fisheries and Game Mercury investigation. Results of the 1972 analyses showed that mercury concentrations in fish tissues will vary directly with length, weight, and age.

75. Massachusetts Division of Fisheries and Game, The Presence of Polychlorinated Biphenyls in the Housatonic River, P. J. Palermo, December 1971.

Samples from the Housatonic River were taken and analyzed for PCB's in a follow-up effort to a previous study. Results pinpointed the source of the PCB's as the GE plant near Pittsfield. AROCHLOR 1260 was the PCB most commonly found.

76. Massachusetts Division of Fisheries and Game, Bureau of Wildlife Research and Management, Massachusetts Pesticide Monitoring Program, Progress Report, 1 April 1972-31 March 1973, P. J. Palermo, 1973.

This report discusses the culmination of a project dealing with pesticides monitoring in the aquatic environment. PCB's were detected in a majority of fish samples taken and an interpretation of the results is included with the analyses.

77. Massachusetts Water Resources Commission, Division of Water Pollution Control, Water Quality Section, Ten Mile River, 1973, Water Quality Survey Data, November 1973.

This report presents data collected during a river survey conducted during the summer of 1973. Nineteen stations were selected along three rivers in Massachusetts. Samples were then analyzed for cadmium and chromium content. A discussion of the results of the analyses is presented.

78. Metropolitan Dade County Pollution Control, The Miami River: A Synopsis of the History, Characteristics and Flow of the River and the Possible Causes of its Pollution, 1973.

A program was initiated to clean up the Miami River. This report discusses what actions were taken and what progress has been made to date.

79. Metropolitan Dade County Pollution Control, Water Quality Data, 1972-1975, 1975

Included in this document are analyses of data from water sampling stations in the state of Florida. Each station monitored the water samples for a variety of parameters, including some heavy metals.

80. Michigan Department of Agriculture, Great Lakes Environmental Contaminant Survey, 1972, 1973.

The Michigan Department of Agriculture, the Michigan Department of National Resources, the U.S. Food and Drug Administration-Detroit Region, and the USDI Bureau of Sport Fisheries, Ann Arbor Laboratory, collaborated on a study of fish contamination in the Great Lakes. Fish samples were analyzed for mercury and PCB's. In addition, the Department of Agriculture analyzed approximately 450 imported tuna samples for Hg, and various agricultural products for PBB contamination.

81. Michigan Department of Natural Resources, Division of Air Pollution Control, Heavy Metals Air Data, 1974.

This document contains data collected in 1974 from high volume sampling for two sites in Michigan. The data was analyzed and transferred to SAROAD daily data forms.

82. Michigan Department of Natural Resource, Wildlife Division, Mercury and PBB in Wild Mammals and Birds, 1969-1974.

The data in this document was obtained by monitoring wildlife in Michigan for mercury and PBB contamination. For PBB a relationship between animal age and PBB level was found; for mercury, only two analyses of ducks showed mean levels above the USFDA limit.

83. Michigan Department of Public Health, Michigan Drinking Water Data, 1974-1975.

Data contained in this document include analyses performed during 1974-1975 on drinking water in Michigan. Results showed that all samples contained no toxic substances above the detectable limits.

84. Michigan State Department of Agriculture, Heavy Metals Program Data, 1974.

The Michigan Department of Agriculture monitored hogs and dairy products to find out if the spraying of waste water effluent would have any toxic effects. The samples taken were insufficient to draw any concrete conclusions.

85. Michigan Water Resources Commission, Bureau of Water Management, Monitoring for Polychlorinated Biphenyls in the Aquatic Environment, May 1973.

This document describes monitoring activities in the state of Michigan for PCB's. Originally, inland water was the only medium sampled, but supplementary sampling was then performed on other media including stream sediments, municipal raw water intakes, and sanitary landfill runoffs.

86. Michigan Water Resources Commission, Bureau of Water Management, Department of Natural Resources, A Study of Polybrominated Biphenyl Uptake by Caged Fish Held in the Pine River, Vicinity of the Michigan Chemical Company, St. Louis, Michigan, October 4 to 18, 1974.

PBB levels were found in water samples of the Pine River taken during 1974. Fish samples were also found to contain levels of PBB. This paper discusses why PBB was found and what action was taken to lower PBB contamination.

87. Milham, Samuel Jr., and Terrence Strong, Human Arsenic Exposure in Relation to a Copper Smelter, Environmental Research 7, pp. 176-182 (1974).

The authors, associated with the Washington State Department of Social and Health Services, were involved with testing children living near a copper smelter in Tacoma, Washington, for arsenic contamination. Arsenic levels varied with the proximity of the children to the smelter.

88. Missouri Air Conservation Commission, Missouri Air Monitoring Network, 1971-1974.

Two types of air sampling were performed in Missouri by the Missouri Air Conservation Commision. High volume and settleable particulate analyses were made for Pb and Cd for a total of 36 sampling sites. Data covered the years 1971-1974.

89. Missouri Fish and Game Research Center, Fisheries Research Section, Residues in Fish Collected in Missouri 1970 and 1971, 1971.

Approximately 100 fish were collected in the state of Missouri and analyzed for PCB and mercury levels. Results showed that levels of these toxic substances existed in a majority of the samples examined.

90. Missouri Water Supply Program, Water Supply Chemical Analysis, 1972-1974.

This document contains the data obtained from all drinking sources in Missouri, excluding Kansas City, St. Louis County, and St. Louis City. Of the 1,000 water supplies sampled, only 100 showed any detectable levels for any of the parameters under investigation. Of these substances--As, Pb, Cd, Cr, and Hg--only Pb was found in detectable levels. Values ranged from 0.001-0.025 ppm.

91. Morgan, Norman L., A Rapid Analytical Technique for the Determination of Bunker C Fuel Oil in Shellfish with Particular Reference to the January 1971 San Francisco Bay Oil Spill, California Department of Fish and Game, Administrative Report No. 75-1, January 1975.

A new method for analyzing Bunker C fuel oil in shellfish has been developed. This new method requires four hours as opposed to 59 hours for the standard method. After using a pentanemethanol extraction utilizing a blender, absorption chromatography on an aluminum-silica column follows. After vacuum evaporation, the fish sample is then analyzed for the fuel oil level by gas chromatography.

92. Nassau County Department of Health, Lead Levels in Blood, 1971-1974, 1975.

This document contains data on lead levels in blood taken during the spring of 1971, and data on lead levels in water supply distribution systems collected between 1971 and 1974.

93. New England Aquarium Research Department, Trace Metal Analysis of Boston Harbor Waters and Sediments, Vol. II, T. Gilbert, G. C. McLeod, R. Maehl, K. V. Ladd, A. Clay, and A. Barker, July 1972 (work performed for Department of Water Pollution Control, Commonwealth of Massachusetts).

This report discusses the examination of Boston seawaters and sediments for trace metals content. Results showed how the industrial effluents affected the pollution of Boston waters. Four metals were analyzed: Pb, Cd, Cr, and Hg.

94. New Jersey Bureau of Fisheries, Mercury in New Jersey Shellfish, A. J. Julian, Summer 1973.

Shellfish were collected from three New Jersey bays. Both the outer shell and the meat were analyzed in each sample for mercury content. Results showed that levels of mercury found were well below the Federal standards.

95. New York State Department of Environmental Conservation, Analyses of Fish for Metals Content, 1973.

Shellfish and finfish were sampled for heavy metals content. Results are reported in ppm.

96. New York State Department of Health, A Study of Chemicals in Drinking Water from Selected Public Water Systems, 2 Vols., October 1970-March 1971, May 1971-April 1972.

This survey, performed in conjunction with the U.S. Geological Survey, examined the drinking waters of New York state to find out what chemicals, if any, were contained in the water supply. Analyses were performed on water samples with the final conclusion that, in general, chemicals are not a problem in New York waters.

97. New York State Department of Health, Division of Laboratories and Research, Environmental Health Center, Solid Waste Leaching Data, 1972-1975, 1975.

The Environmental Health Center of the New York State Department of Health sampled wells and other bodies of water for solid waste toxicity. Results showed CN was the metal with the highest values.

98. North Carolina Department of Human Resources, Division of Health Services, Analysis of Public Water Supplies in North Carolina. 1973-1974.

This printout summarizes the analysis of water samples taken from public water supplies in North Carolina during 1973 and 1974. The majority of samples were below the detectable limits.

99. Odom, Ron R., Mercury Contamination in Georgia Rails, Georgia Department of Natural Resources, Game and Fish Division, Nov. 1974.

Specimens of soil, crab, and snails were collected from different areas along the coast of Georgia and were analyzed for mercury contamination. Mercury was found in varying degrees in all samples tested.

100. Oregon Department of Agriculture, Mercury File 1970-1974.

This file of information on mercury contains reports, memos, data analysis, and accounts of the monitoring performed throughout Oregon for knowledge of mercury contamination.

101. Pakkala, Irene S., et al., Arsenic Content of Fish from New York State Waters, New York Fish and Game Journal, Vol. 19, No. 1, pp. 12-31, January 1972.

Fish from New York state waters were sampled and examined for arsenic content. Results showed arsenic levels of up to 0.5 ppm, with larger fish having higher arsenic contamination than smaller fish.

102. Pennsylvania Bureau of Air Quality. Ambient Air Quality Data, 1971-1973.

Eleven air basins in Pennsylvania analyzed air samples for total suspended particulates. Over 50,000 data points were collected and coded into the SAROAD format.

103. Pennsylvania Department of Agriculture, Bureau of Foods and Chemistry, Pesticide Report Data, 1971-1974.

This report contains the results of toxic substance analysis performed by the Pennsylvania Department of Agriculture. Arsenic, lead, mercury, and PCB's were found in the various media examined.

104. Philadelphia Air Management Services, High Volume Air Sampling Data, 1972-1974.

This report contains data collected from air sampling sites in the city of Philadelphia. Samples were analyzed for lead and cadmium content,and results were coded onto SAROAD forms.

105. St. Louis City Air Sampling Network, Air Pollution Data, 1970-1973.

This document contains data from the ten high volume particulate air sampling sites in St. Louis City. Monthly samples were submitted for a number of trace metals including Pb, Cd, and Cr. The time frame for the air sampling was 1970-1973.

106. St. Louis County Air Sampling Network, Air Pollution Data, 1971-1974.

This document contains data from the 11 high volume particulate air sampling sites in St. Louis County. Parameters sampled included Pb and Cd for the years 1971-1974.

107. Schink, T. D., R. E. Westley, and C. E. Woelke, Pacific Oyster Embryo Bioassays of Bottom Sediments from Washington Waters, Washington State Department of Fisheries, Management and Research Division, May 1974.

This report discusses and summarizes results of a study evaluating bottom sediments from several locations in Washington using the Pacific oyster embryo bioassay procedure. Examination of the samples were inconclusive.

108. Smith, William H., Metal Contamination of Urban Woody Plants, Environmental Science and Technology, Vol. 7, pp. 631-636, July 1973.

Woody plants from the city of New Haven, Connecticut were sampled for metal contamination. Cd was found in "normal" amounts, Cr was present in "slightly above" normal amounts, and Pb was present in "above nromal" amounts.

109. Stephens, George R., Lester Hankin, and William D. Glover, Jr., Lead Emissions from Incinerated Sewage Sludge Detected on Tree Foliage Journal of the Air Pollution Control Association, V. 22, No. 10, pp. 799-800, October 1972.

Although automobile exhaust is the primary source of lead pollution, small amounts of lead come from the incineration of solid waste. A study was conducted showing that trees near incineration plants absorb lead emissions from the plants.

110. Arokwa, Lee W., and Gene L. Ralston, Water Quality Survey of the Coeur D'Alene River and the Coeur D'Alcene Lake, Idaho Department of Health Environmental Improvement Division, March 1972.

This paper describes an ongoing program to monitor the Coeur d'Alene River and Lake for any effects the nearby mining and milling activities and the wastes they produce might have on aquatic life.

111. Tacoma (Washington) Department of Public Utilities, Water Analysis, 1968-1974.

Ground water was analyzed by the city of Tacoma. Results showed toxic substances content to be below the Federal standard.

112. Taylor, Richard W., Presence and Influence of Certain Heavy Metals on the Yield and Utilization of Medicago Sativa L., Master's Thesis, University of Connecticut, 1974.

This thesis deals with the potential hazards to the environment by heavy metals pollution. Three metals--nickel, lead, and cadmium--were under investigation to determine if these metals were present in alfalfa grown in Connecticut. A survey then followed to determine the effects of these metals on the growth of alfalfa. The final phase of the study was to determine if animals eating the alfalfa showed any health effects.

113. Tennessee Air Polution Control Division, Air Quality Data, 1972-1974. (including annual report July 1973-June 1974)

This report contains Hi-Vol air sampling data for Be, Cd, Cr, and Pb for the years 1972-1974.

114. Tennessee Department of Agriculture, Pesticide Residue Sampling Program, 1971-1975.

This report contains the data obtained during four years of monitoring for the Pesticide Residue Sampling Program. Analyses were performed on approximately 1800 samples. A large majority of them showed no pesticide contamination.

115. Tennessee Game and Fish Commission, Annual Progress Reports, 2 Vols., 1971-1972, 1972-1973.

These annual reports, covering the period July 1971 through June 1973,discuss the pesticide monitoring program set up by the commission and also discuss the investigations by the commission of disease and pollution-caused fish kills. The reports contain extensive PCB data.

116. Tennessee Valley Authority, Mercury in Flesh of Fish Taken from TVA Reservoirs, 1973.

TVA sampled its reservoirs for mercury contamination in fish. This report contains the data taken during this monitoring effort.

117. Texas Parks and Wildlife Department, Mercury in Texas Fish, 1971.

Fish samples from four locations in Texas were analyzed for mercury contamination. Values ranged from 0.005-0.870 ppm and 0.11-0.55 mg/kg for two separate analyses.

118. Texas State Department of Health, An Environmental Impact Study of the American Smelting and Refining Company's Zinc Smelter, 1972.

The Texas State Department of Agriculture, in conjunction with various Amarillo City and County agencies, performed an environmental impact assessment of the ASARCO Zinc Smelter in Amarillo, Texas. Many conclusions were drawn, including the fact that although the smelter is emitting toxic substances, it is technologically and economically possible for the plant to install abatement equipment.

119. Texas State Department of Health, Division of Shellfish Sanitation Control, Study of Metals in Seafoods in Texas Estuaries, February 1975.

The Division of Shellfish Sanitation Control of the Texas State Department of Health monitors shellfish along the Texas coast for heavy metals contamination. Mercury monitoring has been of prime importance since 1970, when mercury discharge from an industrial plant contaminated oysters, causing heavy financial losses for the oyster fisheries. This report discusses the results of the ongoing analyses.

120. Texas State Department of Health, Water Surveillance Division, Wastewater Surveillance Data, 1971-1974.

This document contains water data gathered from different river basins throughout Texas. Water samples were analyzed for toxic substances content. All of the values appeared to be below Public Health Service standards.

121. Tidswell, Brooke III, and William E. McCasland, An Evaluation of Pesticide Residues on Silt and Sediment in Texas Waterways, Texas Department of Agriculture, August 1972.

This report outlines and discusses a program designed by the Texas Department of Agriculture to define the extent of pesticide pollution in Texas streams. A total of 433 silt samples were examined, with 54.5 percent showing levels of pesticide residues.

122. University of Connecticut, Department of Pathobiology, Annual Report 1972-1973, 1973-1974, Academic Year, 1973, 1974.

This annual report discusses the ongoing research projects and programs studied by the Pathobiology Department of the University of Connecticut. Included in this report are lectures and seminars given by the Pathobiology Department staff, and a list of their publications to date.

123. Utah State Department of Agriculture, Biennial Report, 1974.

Among the topics covered in this report is the routine screening of foods and feeds for pesticide contamination. PCB's were never found above detectable limits.

124. Washington State Department of Social and Health Services, Office of Environmental Health Programs, Tacoma Smelter Study, 1970-1974.

The data for this study showed that the Tacoma smelter emitted lead, cadmium, and arsenic in high amounts. These emissions were analyzed as to their potential health effects.

125. Wesolowski, J. J., W. John, R. Kaifer, Lead Source Identification by Multi-Element Analysis of Diurnal Samples of Ambient Air, Advances in Chemistry Series, Number 123, 1973.

The authors have developed a method that determines the nature and presence of non-automotive lead sources in a given area from ambient air particulates samples. The method has been tested and proven successful.

126. Westley, R. E., et al., A Preliminary Evaluation of Toxicity of the Bottom Sediments of Olympia Harbor, State of Washington, Department of Fisheries, Management and Research Division, April 1972.

The Department of Fisheries extracted sediment samples from Olympia Harbor and examined them for lead and chromium content. Findings showed no finite values for lead, and chromium values ranging from 30 to 46 mg/gm.

127. Whelan, James A., and Carol Petersen, Geology and Geochemistry of Great Salt Lake--an Interim Report to the Utah Legislative Council, Utah State Department of Geology, Division of Geological and Mineral Survey, October 1974.

The Great Salt Lake is under investigation by the Utah Geological and Mineral Survey in conjunction with the Department of Environmental Health, and the Division of Waste Resources, to evaluate and assess the effects of heavy metals upon the lake. The report contains the preliminary data from the investigation, along with a discussion of the findings.

128. Wolkowski, Rochelle M., Differential Cadmium-Induced Embryotoxicity in Two Inbred Mouse Strains. I. Analysis of Inheritance of the Response to Cadmium and of the Presence of Cadmium in Fetal and Placental Tissues, Teratology, V. 10, No. 3, pp. 243-262, December 1974.

Cadmium has been found to adversely affect human beings and other animals. The experiment reported in this paper describes how Cd affected mouse embryos and fetuses when injected into the mother or directly into the fetus.

129. Yankel, A. J., and I. Vonlindern, Procedures Employed for a Study of Lead in Dust, Soil, and the Ambient Air, Idaho Department of Health and Welfare, November 1974.

This report discusses the ongoing air monitoring program in the Silver Valley. Mining and other related operations have been extensive over the past 100 years, and as a result of these activities, lead levels in air have been under careful observation. When these levels increased in 1973, the Department of Health and Welfare decided a special study was necessary.

LISTING OF DATA NOT OBTAINED

1. California

   - Department of Fish and Game. At the time of the agency visit, data was being compiled on analysis of fish and surface water for the toxic substances of interest for the years 1970-1974. The data is to be published in a report which sould be available from the Department in late 1975.
   - Department of Public Health, Food and Drug Division. The Division has heavy metal analysis data for processed foods for the period 1971-present. It was not possible to arrange a meeting with the Division Director or his Deputy during the time of visits to other California agencies, and their permission is required for release of the data.
   - Monterey Valley Environmental Monitoring Pilot Project. A special project was established in 1971 to monitor toxic substances in a wide range of media in the Monterey Valley. At the time of the visit a project report was in preparation which would include all available data in an appendix. That report had not been obtained at the time this final report was prepared.

2. Colorado

   - Engineering and Sanitation Division. The Division tests public water supplies for several of the heavy metals of interest, and every several years the data is complied and published. The most recent publication contained data

through 1970. The Division was beginning to compile post-1970 data at the time of the visit, and expected that a report would be available in 1975. The report had not been received when this final report was prepared.

3. Connecticut

- Department of Health. Beginning in the fall of 1974, public water supplies have been monitored for several heavy metals of interest. The data had not been compiled at the time of the visit and could not be readily made available.
- Agricultural Experiment Station. All eight principal toxic substances of interest are monitored at random in foods. There is no systematic compilation of toxic substances data, and the data could not readily be made available from the files for copying.
- Department of Environmental Protection, Solid Waste Division. Surface water monitoring data on heavy metals of interest has been accumulated for several years. The data was being compiled for computer processing at the time of the visit and could not be made available.

4. Deleware

- Division of Environmental Control. Post-1971 data on heavy metals in surface water was available. However, at the time of the visit the data was being entered into the STORET system, and so it was not obtained.

5. Florida

- Bureau of Sanitary Engineering. Analysis of public water supplies for arsenic and chromium began in 1974, but the small amount of data available has not been prepared for release.
- Broward County, Florida, Health Department. The county has over 12 years of data on heavy metals of interest in ground-water samples. However, the data is uncompiled and in a number of files, and the agency could not spend the several man-days which would be required to retrieve and copy the appropriate data. The meeting schedule in the state did not allow for the time required to obtain the data from Broward County.

6. Idaho

- Water Quality Bureau. The Bureau has responsibility for stream water quality and public water supply. Stream data goes to STORET. Some metals analysis is done for water supplies which is not included in STORET now. The monitoring program is being upgraded, and the data will be computerized. When this is accomplished the data will be readily available. All the data had not been computerized at the time this final report was prepared.

7. Iowa

- Hygienic Laboratory. This laboratory has monitoring data on

PCB's, but it is combined in files with other analysis data not relavent to the project, and the time that would be required for retrieval was considered excessive in terms of other state data which could be more readily obtained.

8. Michigan

   - Department of Health. A study of PCB contamination in the state had been interrupted by analysis requirements for a major PBB contamination episode. When the work is completed on PBB analysis, the Department expects to resume the PCB work. Some PCB data was obtained from the Agriculture Department, but the Health Department data was not available at the time this final report was prepared.

9. Missouri

   - St. Louis City Health Department. The city has blood lead level data which includes the period 1971-present. At the time of the meeting in St. Louis, the data was being computerized for analysis and the city agreed to send a printout of the data when analysis was completed. The data had not been received when this final report was prepared.

10. New Jersey

    - Division of Water Resources. With EPA assistance, the Division was reorganizing its monitoring and data handling operations. All toxic substances data for the water media is in the process of being computerized, and when this is completed,

arrangements will be made to include the data in STORET.

11. New York

- Department of Environmental Conservation, Fish and Wildlife Management. Data on about 3,000 analyses of fish and wildlife for PCB's and mercury is filed in laboratory report form at several laboratories with other environmental data. Retrieval was determined to be too time-consuming since data from other state agencies was more readily available, and this New York data was not obtained.
- Department of Health, Division of Laboratories and Research. This Department has an extensive laboratory system, with a large volume of uncompiled data on most of the toxic substances of interest from a wide variety of samples. Repeated requests have been made for the data, but apparently resources could not be made available in the Department for the considerable work involved in retrieving and copying the data.
- New York City Department of Air Resources. Data on Hi-Vol sample analysis for a number of metals is available for the period 1971-present, and arrangements were made for the city to provide copies of the data. The data had not been received after several follow-up requests. Apparently reductions in staff have made it difficult for the agency to allocate the time required to retrieve and copy the data.

12. Tennessee

- Department of Public Health, Sanitary Engineering Division. Treated public water supplies and wells are monitored for most of the toxic substances of interest. However, the reports are filed with other information by each supply and a great deal of time would be required to retrieve and copy the appropriate data. Since data from other state agencies was more readily available, this water supply data was not obtained.

13. Texas

- Water Development Board. Besides surface water data, which is computerized and available through USGS, the Board has a large amount of data on heavy metals of interest which are monitored in a groundwater sampling system. This data is presently in over 1000 separate files along with other related information, but it will be computerized to become part of an overall state water data bank. Since an excessive amount of time would have been required to retrieve and copy appropriate data, and since the data is to be part of a larger computerized system in the near future, the Texas groundwater data was not obtained.

14. Utah

- Environmental Health Bureau, Air Quality Section. Hi-Vol filters are analyzed for beryllium in Utah from three sites

near beryllium mining operations. At the time of the meetings in Utah, the data was being validated for submission to EPA's Region VIII Office.

15. Washington

- Washington Department of Ecology, Air Quality Division. The Division does analysis for a number of heavy metals of interest, and arrangements were made to obtain all of the available data from 1971 to the present. Despite several follow-up requests, the data had not been received at the time this final report was prepared. It is believed that at least part of the delay was caused by the physical move of the air quality laboratory, together with all records, which occurred during the course of the project.